AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1 (original): A structure of electro-optics device with a high efficiency, comprising:

a plurality of convex die carriers, wherein a convex portion of each of the plurality of convex die carriers is defined as a cell-fixing surface; and

a plurality of electro-optics cells, and each of the plurality of electro-optics cells has a first electrode and a second electrode, wherein the first electrode is electrically connected with each of the plurality of convex die carriers and the second electrode is electrically connected with a lead frame.

Claim 2 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein the structure further comprises a transparent fixing-glue which is used for fixing each of the plurality of convex die carriers and each of the plurality of electro-optics cells.

Claim 3 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein the structure comprises a plurality of light reflecting layers located on the surface of each of the plurality of convex die carriers.

Claim 4 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein each of the plurality of electro-optics cells is selected from the group consisting of a light-emitting cell, a PIN photo diode cell, an avalanche photo diode cell, a metal-semiconductor-metal photo detector cell, a metal-oxide-semiconductor field effect transistor cell, and a metal-semiconductor field effect transistor cell.

Claim 5 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein a silver paste is used for wire bonding between the first electrode and the cell-fixing surface.

Claim 6 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein a conductive paste is used for wire bonding between the first electrode and the cell-fixing surface.

Claim 7 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein an eutectic method is used for wire bonding between the first electrode and the cell-fixing surface.

Claim 8 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein the plurality of convex die carriers further comprises:

a plurality of bases; and

a plurality of semiconductor bases, wherein a first surface of each of the plurality of semiconductor bases is located on each of the plurality of bases, and a second surface of each of the plurality of semiconductor bases has a convex portion, and the convex portion is the cell-fixing surface.

Claim 9 (original): The structure of electro-optics device with a high efficiency of claim 8, wherein the structure further comprises a light reflecting layer located on the convex second surface of each of the plurality of semiconductor bases.

Claim 10 (original): The structure of electro-optics device with a high efficiency of claim 8, wherein a metal material is used for wire bonding between the first electrode and the cell-fixing surface.

Claim 11 (original): The structure of electro-optics device with a high efficiency of claim 10, wherein the metal material is selected from the group consisting of AuSn alloy, PbSn alloy, PbIn alloy, PbSnAg alloy, AuSi alloy, AuGe alloy, AuBe alloy, InSn alloy, AgIn alloy, SnAg alloy, SnAgBi alloy, AuGeNi alloy, and In.

Claim 12 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein the cell-fixing surface is selected from a symmetric cell-fixing surface having a first pattern and a second pattern, the first pattern and the second pattern being mirror-reflected to each other.

Claim 13 (original): The structure of electro-optics device with a high efficiency of claim 1, wherein the cell-fixing surface is selected from an asymmetric cell-fixing surface having a first pattern and a second pattern, the first pattern and the second pattern not being mirror-reflected to each other.

Claim 14 (original): A method for forming a high efficiency electro-optics device, comprising:

providing a plurality of convex die carriers having a convex portion defined as a cell-fixing surface;

bonding a first electrode of an electro-optics cell on each of the plurality of cell-fixing surfaces to connect electrically with each of the plurality of die carriers; and

connecting electrically a second electrode of the electro-optics cell with an electrical adapter.

Claim 15 (original): The method for forming a high efficiency electro-optics device of claim 14, wherein the steps of providing the convex die carriers further comprise:

providing a plurality of bases;

etching a plurality of semiconductor bases to form each of a plurality of convex cell-fixing surfaces on each of a plurality of first surfaces of the plurality of semiconductor bases; and

fixing each of a plurality of second surfaces of the plurality of semiconductor bases on each of the plurality of bases.

Claim 16 (currently amended): The method for forming a high efficiency electro-optics device of claim 15, wherein the method further comprises a step of forming a light reflecting layer located on each of the plurality of first surfaces of the plurality of semiconductor bases.

Claim 17 (original): The method for forming a high efficiency electro-optics device of claim 14, wherein the electrical adapter is a lead frame.

Claim 18 (original): The method for forming a high efficiency electro-optics device of claim 14, wherein the electrical adapter is a printed circuit board.

Claim 19 (original): The method for forming a high efficiency electro-optics device of claim 14, wherein said electrical adapter is a metal base.

Claim 20 (original): The method for forming a high efficiency electro-optics device of claim 14, wherein the method further comprises a step of providing a transparent fixing-glue for fixing each of the plurality of convex die carriers and the electro-optics cell.

Claim 21 (currently amended): The method for forming a high efficiency electro-optics device of claim 14, wherein the method further comprises a step of forming a light reflecting layer plated on the surface of each of the plurality of convex die carriers.

Claim 22 (original): The method for forming a high efficiency electro-optics device of claim 14, wherein the electro-optics cell is selected from the group consisting of a light-emitting cell, a PIN photo diode cell, an avalanche photo diode cell, a metal-semiconductor-metal photo detecting cell, a metal-oxide-semiconductor field effect transistor cell, and a metal-semiconductor field effect transistor cell.

Claim 23 (original): The method for forming a high efficiency electro-optics device of claim 14, wherein the method further comprises a step of providing a self-aligning process for fixing the first electrode and each of the plurality of cell-fixing surfaces, and the self-aligning process comprising:

forming a metal material on the first electrode;

forming a metal layer on each of the plurality of cell-fixing surfaces; and

under a specific temperature, contacting the metal layer and the metal material to form a metal bonding for accomplishing an electrical connection between the first electrode and the plurality of die carriers.

Claim 24 (original): The method for forming a high efficiency electro-optics device of claim 23, wherein the metal bonding is an eutectic bonding.

Claim 25 (original): The method for forming a high efficiency electro-optics device of claim 23, wherein the metal bonding is a metal melting.

Claim 26 (original): The method for forming a high efficiency electro-optics device of claim 23, wherein the metal material is selected from the group consisting of an AuSn alloy, PbSn alloy, PbIn alloy, PbSnAg alloy, AuSi alloy, AuGe alloy, AuBe alloy, InSn alloy, AgIn alloy, SnAg alloy, SnAgBi alloy, AuGeNi alloy, and In.

Claim 27 (original): The method for forming a high efficiency electro-optics device of claim 23, wherein the specific temperature is higher than the melting temperature of the metal material.

Claim 28 (currently amended): The method for forming a high efficiency electro-optics device of claim 14, wherein each of the plurality of cell-fixing surfaces is selected from a symmetric cell-fixing surface having a first pattern and a second pattern, the first pattern and the second pattern being mirror-reflected to each other.

Claim 29 (currently amended): The method for forming a high efficiency electro-optics device of claim 14, wherein each of the plurality of cell-fixing surfaces is selected from an asymmetric cell-fixing surface having a first pattern and a second pattern, the first pattern and the second pattern not being mirror-reflected to each other.